Remarks

Claims 1-24 were previously pending in the subject application. By this Amendment, claims 1, 2, 9, 10, 17, and 18 have been amended and new claims 25-30 have been added. Claims 1, 9 and 17 have been amended to specify the content of milk protein hydrolysate to be 0.9 to 3 g per 100 mL of the composition, and the content of protein derived from fermented milk is 2.5 to 4.5 g per 100 mL of the composition. Support for the amendments to claims 1, 9 and 17 can be found at, for example, page 10, lines 26-27 and page 11, lines 7-8 of the specification. Claims 2, 10 and 18 have been amended to replace the phrase "wherein said milk protein is selected from ..." with "wherein the source of said milk protein hydrolysateis selected from ...". Support for this amendment can be found at, for example, page 6, lines 9-12 of the specification.

Support for new claims 25-30 can be found in Test Example 1(b) at page 24, line 26 to page 26, line 16; page 4, lines 10-12 and 19-24; page 28, lines 28-30; page 27, lines 16-34; and page 31, line 27 to page 32, line 5. No new matter has been added by the addition of these claims. Accordingly, claims 1-30 are before the Examiner for consideration.

The amendments to the claims have been made in an effort to lend greater clarity to the claimed subject matter and to expedite prosecution. The amendments should not be taken to indicate the applicants' agreement with, or acquiescence to, the rejections of record. Favorable consideration of the claims now presented, in view of the remarks and amendments set forth herein, is earnestly solicited.

Claims 1-24 have been rejected under 35 U.S.C. §112, second paragraph, as being ambiguous. In order to expedite prosecution, the applicants have amended claims 1, 9, and 17 to specify the content of milk protein hydrolysate to be 0.9 to 3 g per 100 mL of the composition, and the content of protein derived from fermented milk to be 2.5 to 4.5 g per 100 mL of the composition. Support for the amendment can be found at page 10, lines 26-27 and page 11, lines 7-8 of the subject specification. In view of this amendment, the applicants respectfully believe this rejection has been rendered moot.

Further, the Office Action rejects claims 2, 10 and 18 for the limitation "said milk protein." The applicants appreciate the Examiner's careful review of these claims and suggestions for

amendments. The applicants respectfully submit that the milk proteins listed in claims 2, 10 and 18 are the protein source of milk protein hydrolysate recited in the broader claims 1, 9 and 17. Accordingly, claims 2, 10 and 18 have been amended to replace the phrase "wherein said milk protein is selected from ..." with "wherein the source of said milk protein hydrolysate is selected from ...". Support for this amendment can be found at page 6, lines 9-12 of the specification. In view of this amendment, the applicants believe this rejection has been rendered moot.

Claims 1-24 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Gray *et al.* (U.S. Patent no. 5,714,472) in view of Kawai *et al.* (1989), Davis *et al.* (U.S. Patent No. 6,998,259), and Siegenthaler (1983), taken with Fritsche *et al.* (U.S. Patent No. 6,737,076) and Ohashi *et al.* (U.S. Patent No. 4,499,076). The Office Action indicates that it would have been a matter of routine optimization to an artisan of ordinary skill in the art to limit the protein content to 2.9 g to 9 g per 100 mL of the composition, because low-protein dietary formulations have been suggested by Ohashi *et al.* to be used for patients with chronic liver disease. The applicants respectfully traverse this ground for rejection.

In order to expedite prosecution, the applicants have amended claims 1, 9 and 17 to specify the content of a milk protein hydrolysate and a protein derived from fermented milk, *i.e.*, 0.9 to 3 g per 100 mL of the composition and 2.5 to 4.5 g per 100 mL of the composition, as discussed above. In other words, the total protein content in the composition is 3.4 to 7.5 g/100 mL of the composition. This value is clearly less than the preferable amount of proteins in the product disclosed by Gray *et al.* (U.S. Patent No. 5,714,472) at column 6, lines 13-15, being 94 grams/liter (*i.e.*, 9.4 g/100 mL).

Moreover, Gray *et al.* disclose at column 4, lines 5-8 that "the protein source includes approximately 80% to 85% of protein hydrolysate." Thus, the preferable amount of protein hydrolysate in the enteral formulation of Gray *et al.* is 7.52 to 7.99 g/100 mL, which greatly exceeds the content of milk protein hydrolysate in the nutritional composition of the present invention.

Ohashi *et al.* merely suggests the desirability of low protein diets for patients with hepatic disorder, and discloses an elemental diet of amino acids, carbohydrates, fats, vitamins, and minerals. Gray *et al.* explicitly disclose at column 2, lines 47-50 that "an advantage of the present invention is

to provide a composition having a high protein content," and at column 3, lines 57-59 that "due to increased metabolic activity, such patients require high protein intake to reduce negative nitrogen balance and support wound repair." Accordingly, the teachings of Ohashi *et al.* is opposite to the purpose of the enteral formulation of Gray *et al.*, and thus, a skilled artisan would have had no motivation to combine the two teachings.

In addition, Ohashi *et al.* does not disclose or suggest the use of the elemental diet for patients under high levels of invasive stress, nor does Gray *et al.* describe the use of the enteral formulation for patients with hepatic disorder. Accordingly, the skilled artisan would have had no motivation to combine the two teachings. Thus, the applicants respectfully submit that the claimed limitation of protein content would not have been a matter of routine optimization, and therefore, the present nutritional composition was not obvious from the prior art.

Furthermore, the Office Action indicates that it would have been obvious to a person of ordinary skill in the art to modify the composition of Gray *et al.* such that it includes a protein from fermented milk, such as quark, with a reasonable expectation of success, because Siegenthaler provides a suggestion of the ease of digestibility, and method of preparation of such composition that are suitable for use with patients having comprised digestive systein and/or under high invasive stress conditions.

The applicants respectfully disagree. Gray *et al.* disclose at column 2, lines 56-60 that "nutrient malabsorption is reduced by the absence of whole proteins" and at column 8, lines 58-60 that "[m]any of the patients receiving the whole protein diet were unable to receive the recommended calorie and protein intakes ... because of intolerance and diarrhea and conflicts with the need to not overhydrate." Those skilled in the art, in view of these descriptions, would not have been motivated to modify the composition of Gray *et al.*, such that it includes fermented milk (*i.e.*, whole protein), nor would the skilled artisan have had a reasonable expectation of success. To the contrary, the skilled artisan would have avoided combining whole proteins. Siegenthaler specifically discusses the advantages of yogurt and quark for infant nutrition, and does not teach or suggest its application to patients under a high level of invasive stress.

The Office Action further alleges that it would have been obvious to a person of ordinary

skill in the art to modify the composition of Gray *et al.*, such that it includes a milk protein hydrolysate which is obtained by enzymatic hydrolysis of a WPI, with a reasonable expectation of success, because Davis *et al.* explicitly provide suggestions of anti-hypertensive properties of peptides derived from WPI.

The applicants respectfully disagree. Davis *et al.* primarily aims at suppressing angiotensin-converting enzyme (ACE), and providing a composition effective therefore. Nowhere in the disclosure of Davis *et al.* is there a suggestion of applying enzymatically hydrolyzed whey proteins to patients under high level of invasive stress. MPEP 2144.06, as noted in the Office Action, stipulates that "[i]t is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose (emphasis added)." However, the purpose of the composition of Davis *et al.* containing enzymatically hydrolyzed whey proteins, is completely different from the purpose of the enteral formulation of Gray *et al.* The former being for suppressing ACE activity and the later being for providing nutritional support to a trauma, burn or post-surgery patient. The applicants respectfully submit that it would not have been obvious to a skilled artisan to modify the composition of Gray *et al.* such that it includes a protein hydrolysate obtained by enzymatic hydrolysis of a WPI, nor would there have been a reasonable expectation of success.

The Office Action also asserts that it would have been obvious to a person of ordinary skill in the art to modify the composition of Gray *et al.* such that it includes a non-calorigenic carbohydrate such as palatinose, with a reasonable expectation of success, because Kawai *et al.* discloses a non-calorigenic substitute for carbohydrate source.

The applicants would like to bring the Examiner's attention to column 2, lines 51-55 of Gray *et al.* which discloses that "an advantage of the present invention is to provide a composition that has reduced water and carbohydrate content, reducing the risk of diarrhea due to carbohydrate intolerance, hyperglycemia...". Thus, a person with ordinary skill in the art would not have had motivation to use palatinose as discussed by Kawai *et al.* in the reduced carbohydrate composition of Gray *et al.*

Moreover, none of the prior art documents disclose or suggest the surprisingly advantageous effect achieved by the nutritional composition of the present invention, which is suitable for providing nutrition to a patient having liver disease and/or a high level of invasive stress. To further articulate the advantageous effect of the present invention, and to expedite prosecution, new claims 25-30 have been added. Support for these amendments can be found throughout the originally filed specification, especially in Test Example 1(b) at page 24, line 26 to page 26, line 16; page 4, lines 10-12 and 19-24; page 28, lines 28-30; page 27, lines 16-34; and page 31, line 27 to page 32, line 5.

Claims 1-24 remain provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-36 of copending Application No. 10/487,237).

The applicants would like to defer substantive response to this rejection until allowable subject matter has been established in the current application, or until the copending application has matured into a patent.

In view of the foregoing remarks and the amendment above, the applicants believe that the currently pending claims are in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 CFR §§1.16 or 1.17 as required by this paper to Deposit Account No. 19-0065.

The applicants also invite the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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